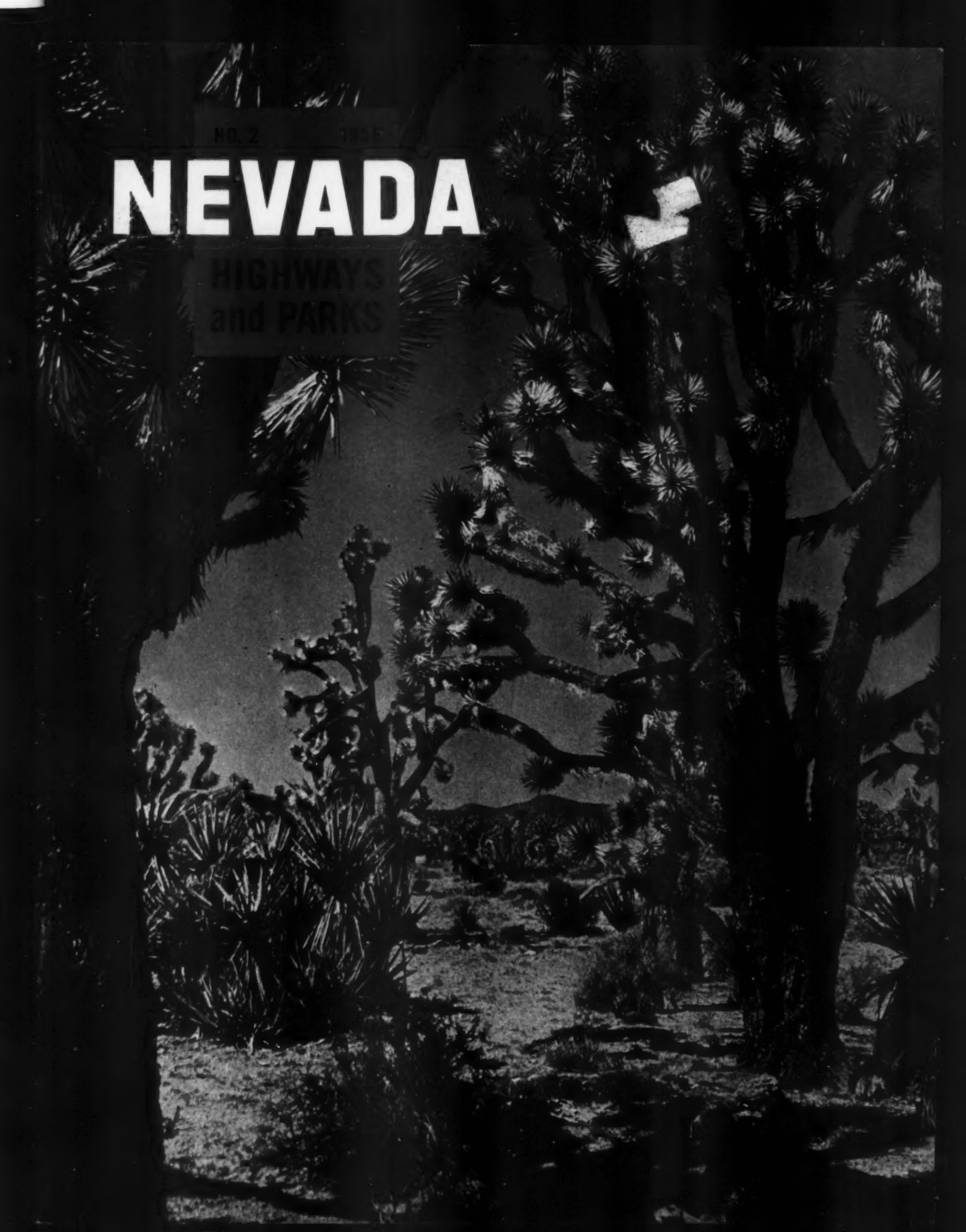
NEVADA
HIGHWAYS
and PARKS

NO. 2 1958

NEVADA
HIGHWAYS
and PARKS

VOL. XVIII

Published by the Nevada
DEPARTMENT OF HIGHWAYS
Carson City, Nevada

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NEVADA HIGHWAYS AND PARKS *is published several times annually and may be obtained free of charge from the Nevada State Department of Highways, Carson City. Printed by the State Printing Office, Carson City, Nevada, Jack McCarthy, Superintendent.*

The stone sentinels of Jarbidge

These grotesque rock figures stand gu

Photos by GUS BUNDY

You could probably fly to Jarbidge by helicopter if you wanted to, but you would be missing half the fun. The only way to really see this spectacular, high-altitude section of Elko County is from the ground-level vantage of your car. There are three roads which take you into the area, two of which look and act as if they might have been transplanted to Nevada from the Tibetan highlands. These are curving, steeply pitched roads which may bring forth squeals of distress from the lady passengers and which, in any case, should be

guard in northern Elko County.

Sprawling plains, soaring peaks, wooded canyons . . . this is a country of v

treated with utmost respect. In exchange for cautious steering, however, they will bring you into some of the most remarkable mountain country in the West, terminating finally at the bottom of Jarbidge Canyon where you come face to face with the strange rock formations pictured on these pages.

Jarbidge Canyon is as isolated as it is geologically interesting. It cuts an incredibly steep and narrow gash through the high Humboldt Mountain plateau, its mouth opening out into flatter country just below the Idaho border. Otherwise, it is fenced in tightly by the Bruneau Range to the west and the sheer Jarbidge Range to the south and east.

Along the 10-mile length of the flat canyon floor runs the little Jarbidge River which flows north into Idaho, connecting with the Snake and Columbia Rivers eventually to reach the sea. The Jarbidge is one of only three or four streams rising inside Nevada which ever accomplish the difficult journey to the Pacific, others being the larger Bruneau, Salmon and Owyhee Rivers which also originate in the mountains of upper Nevada.

ry of varied landscapes.

Scattered along the banks of the river in the canyon are the weathered buildings of the mining camp of Jarbidge. This picturesque little settlement still retains a handful of permanent residents who can remember back 40 years when Jarbidge was a very lively place. Gold was discovered here in 1908 and within two years the formerly drowsy camp had blossomed into a boisterous city of 800 or 900 residents. Tents and wooden cabins sprang up overnight along the precarious slopes of the canyon and fortune hunters came en masse to claim their share of booty from mines which boasted names like "The Long Hike," "Pick and Shovel," "Success," and—right to the point—"The It."

Some of the episodes connected with the boom days of the town have long since taken a place in Nevada folklore. One of the best known of these stories concerns the stagecoach robbery of December 4, 1916, in which an unwary driver was shot through the back and his first-class mailbags plundered. The villain of this piece, a sour-faced fellow despised by the other miners, was later tracked down, tried, and sentenced to prison,

Most spectacular in this rugged area is Jarbidge Canyon's fantastic gal

thus closing the books on what is believed to be the last stagecoach robbery of the Old West.

Life in the camp was fast and reckless, perhaps because the miners wanted to forget the fact that they were almost entirely cut off from the rest of the civilized world. This fact of life was hard to ignore, though, particularly when winter snows piled drifts up to 40 feet high and blocked off all roads except the one through Idaho. To get to the county offices at Elko under these circumstances, they had to make a 65-mile wagon trip to Rogerton, Idaho, and from there catch the train to Elko via Pocatello and Ogden, Utah. This trip took a little planning.

Some nine millions were hauled out of the mines at Jarbidge during a 40-year cycle of alternate boom or bust. Last of the boom periods ended abruptly at the beginning of World War II when the Guggenheim operation in the canyon was forced to close down. Since that time, Jarbidge has slumbered for eight months of the year, springing back to life in warm weather when the sportsmen begin flocking in for deer and trout. Both are available here in quantity and during the

summer and fall game seasons, the canyon literally reverberates with activity. Joining the hunters and fishermen in increasing numbers are the tourists who have somehow heard about the beautiful June wildflower crop and scenery in the area and want to see for themselves. If they are foresighted, these visitors will arrive completely equipped with food and camping gear for they will find that motels and restaurants are hard to come by in Jarbidge. One pleasant lodge for sportsmen operates there during the summer but its "no vacancy" sign is often in evidence; other tourist facilities consist of two bars and a service station where fuels are briskly and efficiently dispensed.

Jarbidge's shortage of bellboys, waitresses and similar big-city amenities will not discourage any prospective tourist, however, if he has even a nodding acquaintance with sleeping bags and iron skillets. There are excellent spots to camp all along the river, notably in the tidy Forest Service camp just south of town. And the visitor will find his time so fully occupied with the delightful outdoors that he is certain to return regretfully to his TV set and deep-freeze.

Unforgettable are the canyon's massive stone temples and haunting, hal

Apart from the curious old buildings of the village, the most striking sight is the fantastic gallery of natural statuary which extends for several miles along the canyon. These strange pillars consist of rocks of the Younger Rhyolite series and, like the canyon itself, began to be carved out centuries ago by the river. The weird statues cut by this differential erosion are unusual not only geologically but also as visual curiosities for they seem to change shape hour by hour as the sun moves across the sky. That group of figures which you would take for outsized chessmen in the morning, for example, strangely turns into frolicking aborigines in the afternoon. For this reason, the gentle art of staring has become an established custom in Jarbidge Canyon; and after several hours' looking, the great jumble of stone statuary will claim a permanent page in anyone's mental scrapbook. Except for its awkward problem of distance and accessibility, Jarbidge Canyon is an outstanding tourist attraction. Its permanent scenic value was recognized when it was included in a new Wild Area established last April by the Forest Service.

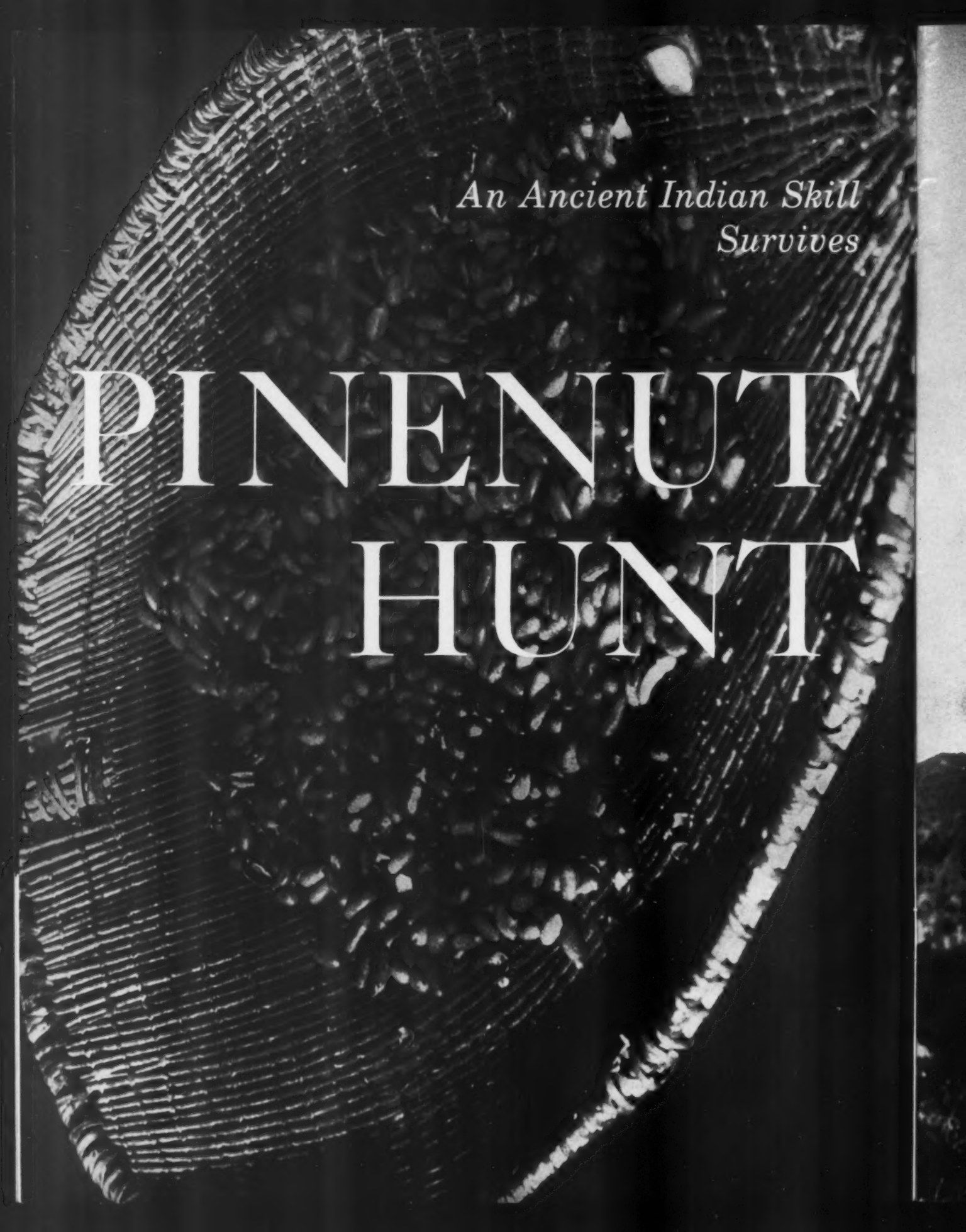
g, half-human figures.

To get to Jarbidge Canyon from Elko, the two most difficult routes are recommended mainly because they are so easy on the eyes.

These two roads hurl you down into the canyon from the west or south, over breath-taking grades that descend something like 2,000 feet in 5 or 6 miles. A third, easier entry is possible from the north (via U. S. 93, thence west into the canyon through Rogerton, Idaho), but this route is longer and less scenic than the two steeper roads which branch off State Route 43 north of Elko.

The first of these runs east from the Wild Horse Reservoir and meanders about 47 miles to the canyon, past the Forest Service camp on Gold Creek, along wooded Meadow Creek, across the Bruneau River and along the Diamond A Desert. Deep ravines, rocky peaks and a few isolated ranches are your neighbors on this trip.

The second entry is also made via a dusty but comfortable road which turns off about 55 miles north of Elko and leads over Coon Creek and Bear Creek Summits from where you view the Saw Tooth Mountains 150 miles north in Idaho and the faint Sierra peaks 300 miles to the west.



An Ancient Indian Skill Survives

PINENUT HUNT

When Woozie and Jimmie George went pinenut hunting last fall, they were repeating a ritual as old as Indian civilization itself, one that dates back thousands of years.

Pinyon trees (Pinus cembroides var. monophylla) are native to the mountains of the Great Basin section of the state, where they grow abundantly at the cooler altitudes above the parched desert floors. The importance of the pinenut as a food is seen immediately when the geography of the Great Basin is considered. Here is a great, arid bowl blocked by dozens of north-south mountain systems. Water is scarce, distances vast, and movement is complicated by temperatures which range from very hot to very cold.

Because of these natural obstacles, food in the form of game birds and animals was difficult for the Indian tribes to obtain. Almost as if she intentionally wanted to compensate for this hardship, Nature provided permanent foodstores for the Indians by fashioning the pinyon pine.

The nut is one of the most nourishing foods provided by any tree. Its soft, milk-white kernel is heavy with oil and has a delicious, slightly pine-tasting flavor which is unforgettable.

Nevada Indian tribes, the Washoes, Paiutes, Shoshones and others, staked out private nut hunting grounds and these—long before the era of maps or fences—were completely respected by other tribes. For generations, families went hunting, taking both wild game and the fall harvest of pinenuts from these private grounds. This custom was interrupted by the coming of the white man, resulting in the quick collapse of the tribal system.

Whole families went hunting and remained in the hills until every last branch had yielded its treasure. The Indians stored piles of nuts under mounds of brush and dirt, removing them during the lean winter months as needed. They roasted the nuts and ate them directly out of the shells or, more commonly, ground them into flour which was mixed with water to make pinenut soup.

Preparation of the soup, a process pictured on these pages, is an Indian art that was passed down for generations from mother to daughter. Today, however, very few of the younger Indians have learned the difficult technique of handling the large, flat baskets traditionally used in the winnowing and roasting of nuts. And no longer is the nut important as a food item. Pinenut hunting has become a form of recreation enjoyed annually by as many whites as Indians.

Woozie George, one of the very few Paiutes in Nevada who can handle the basket, is a true artist at her work. She moves her basket with different motions during the several steps of soupmaking, bouncing the nuts with a strange primitive rhythm that is graceful and beautiful to see. Woozie takes part in the pinenut hunt with a reverence that she inherited from her older kinsmen. To her, the pinenut is much more than a simple seed—it is a life-sustaining gift from Nature which should be handled with respect. Like her ancestors, Woozie still says a little prayer before the pinenut hunt begins. These are her words—

"When we come to a pinenut place, we talk to the ground and mountain and everything. We ask to feel good and strong. We ask for cool breezes, to sleep at night. The pinenuts belong to the mountain so we ask the mountain for some of its pinenuts to take home and eat."

Pictures on these pages were taken by Margaret M. Wheat for the Nevada State Museum, and are now part of the Museum's extensive collection of Nevada Indian material.

With a long pole, pine cones and loose nuts are knocked off trees. Then they are gathered by hand into baskets.

Nuts are lightly roasted, then removed from their shells by use of the "tusunu" or mano and board (right). Mano must be handled lightly so as not to mash the nuts. This is a skill passed down through many generations from mother to child.

Woozie next transfers the nuts to the basket and separates some of the loose, cracked shells by hand as pictured below.

Great skill is required to winnow broken shells from nuts. Here, Woozie tosses her basket, letting the wind carry off the shell fragments.

Now the nuts are ready for a second roasting. Woozie adds hot coals to her basket, tossing it with a sure rhythm until the nuts are cooked.

Woozie knows when nuts are roasted. With a sharp flip of the basket, she tosses out the hot coals. The next step is to eliminate the ash.

Jimmie, meanwhile, busies himself by cleaning bark from a short, sturdy stick. Woozie will use this for mixing the soup—the final product.

But first, she grinds the nuts into a flour with a mano and board. Before the white man came, flat rocks rather than wooden boards were used.

Now the water is slowly added to the flour until the soup is thinned. To serve it warm, smooth, heated rocks are briefly added to the mixture.

The Colorado River i

This Rugged Country Shown in Recent Air Photos

Three hours have passed since you left Reno's Hubbard Field and your plane's already climbing smoothly over the mountainous approach to Las Vegas and the wonderland of southern Nevada.

A vast panorama opens out beneath you as your eye takes in the amazing contrast of scenery as seen from 8,000 feet in the air—to the west, the snow-capped Charleston Mountains rise suddenly from the desert floor, while to the east, Lake Mead stretches across the horizon.

Your plane brings you to the climax of your swift air flight as you nose down over the mountains toward McCarran Field. Ten minutes later you've landed and stepped out into the warm sun.

But you have seen only a part of the scenic wonders of this country that extends 50 miles north to the Virgin River and southward another 50 miles to the tri-state area of Nevada, California and Arizona. And all this is the domain of the Lake Mead National Recreation Area.

So taking advantage of the clear weather and smooth air, you take off from the Las Vegas airport to see the rugged and beautiful country along the Colorado River Canyon, south of Hoover Dam.

As the plane banks to follow the deep and tortuous canyon downstream, a backward glance reveals the gleaming whiteness of the dam, the engineering marvel that was built to tame the rampaging Colorado. Behind this concrete giant can be seen the beginning of man's largest artificially created body of water, Lake Mead.

Downstream, a blue haze dulls the jagged grandeur of the canyon country, worn and cut into knife-like ridges by the erosion of centuries. Seen at 2,000 feet above this mighty crevasse, the river appears only as a small dark ribbon winding its way toward the salty waters of the Gulf.

Copies of an index covering the first 14 volumes (1936–1954) of this magazine are still available from the Nevada Library Association. The index provides a valuable reference aid to those having files of back issues and may be ordered for one dollar from Mrs. Glenn Robertson, Treasurer, Nevada Library Association, 36 Lawell Street, Henderson, Nevada.

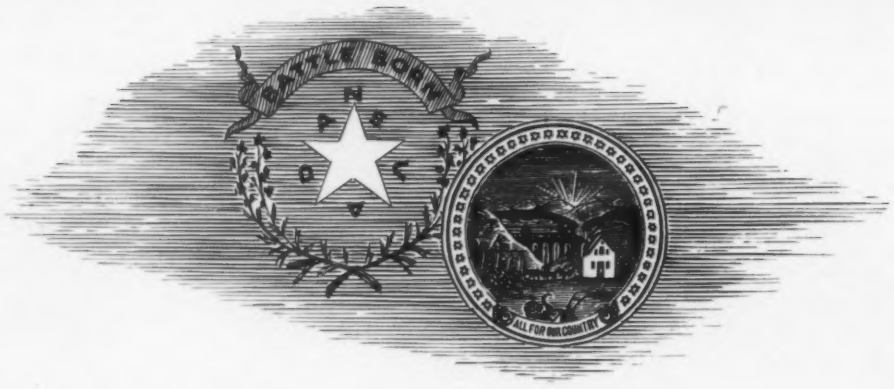
r in Nevada

Before you can lift your eyes from this fascinating picture, you've arrived over Davis Dam, another man-made brake astride the nation's fourth longest river. As your plane drops nearly 1,000 feet, you can pick out the details of this earthen and concrete structure, while behind it Lake Mohave presents a cool, refreshing picture against the parched desert around it.

As you feel the plane begin to turn back toward the city comforts of Las Vegas, you take one more fleeting glance at the natural splendor of the mighty Colorado. And later, as your plane settles onto the paved runway, you can't help but wonder at the courage and determination of those early pioneers who forced their way through this country of desert wastes and steep canyons, who struggled for days and weeks to cross this foreboding land which you traveled in a few short, comfortable minutes.

Seeing this colorful country from the air is one thing, but taking color shots from a single-engined Cessna 182 is another, according to Highway Department pilot Lew Gourley and photographer Adrian Atwater.

Lack of room in the small four-seater required that the right front seat be slid back and pictures be taken through the open side window. As the air rushed by the outside of the plane at a loud and furious pace, the photographer had to wedge himself firmly inside while he steadied the camera and photographed the scenery. The results of this effort are seen on this and on the following pages where miles of the canyon country are portrayed in color.



Territorial Governor of Nevada:

JAMES W. NYE

"With the most heartfelt emotion I greet you. I come among you with a full appreciation of the important duties devolving upon me as the chief executive of the new territory . . . allow me to assure you that not one star shall be permitted to be removed from the old 34. Twenty-five million free men will not permit it. And I have come here to this distant country with the hope of adding one more—a bright and glorious star—Nevada."

The crowd cheered, cannon boomed, flags waved and Nevada gave its warmest welcome to the man sent by Lincoln to launch this wild western country toward its first official government: the time, July 7, 1861; the place, Carson City; and the man, Territorial Governor James W. Nye.

Less than a week later, Nevada became a territory and Nye issued his first proclamations establishing the footings for the new governmental structure. In a few weeks, Nevada was on its way toward the achievement of what had been the dream of those early settlers—statehood.

Nye's background suited him for this crowning venture of his career since most of his earlier life had been spent in politics. He received his first political appointment in 1847 as judge of Madison County, New York, where he had studied and practiced law as a younger man. In the years to follow, he continued in the political arena, climaxing his efforts as a delegate to the 1860 Republican National Convention in Chicago.

It was there that fate took a hand and turned his support from the presidential nomination of his friend William H. Seward to that of candidate Abraham Lincoln. Following the convention, Nye and Seward, who later became Secretary of State in Lincoln's cabinet, toured the West stumping for the backwoods statesman.

Thanks to these efforts and his friendship with Seward, Nye was made Territorial Governor of Nevada and given the privilege of appointing his political friends to lesser governmental positions in the territory. Here fate intervened again as he chose Orion Clemens for Territorial Secretary of State. And Orion chose his brother, Samuel, to accompany him out West—the same Sam Clemens who was to immortalize Nevada and himself under the pen name of Mark Twain.

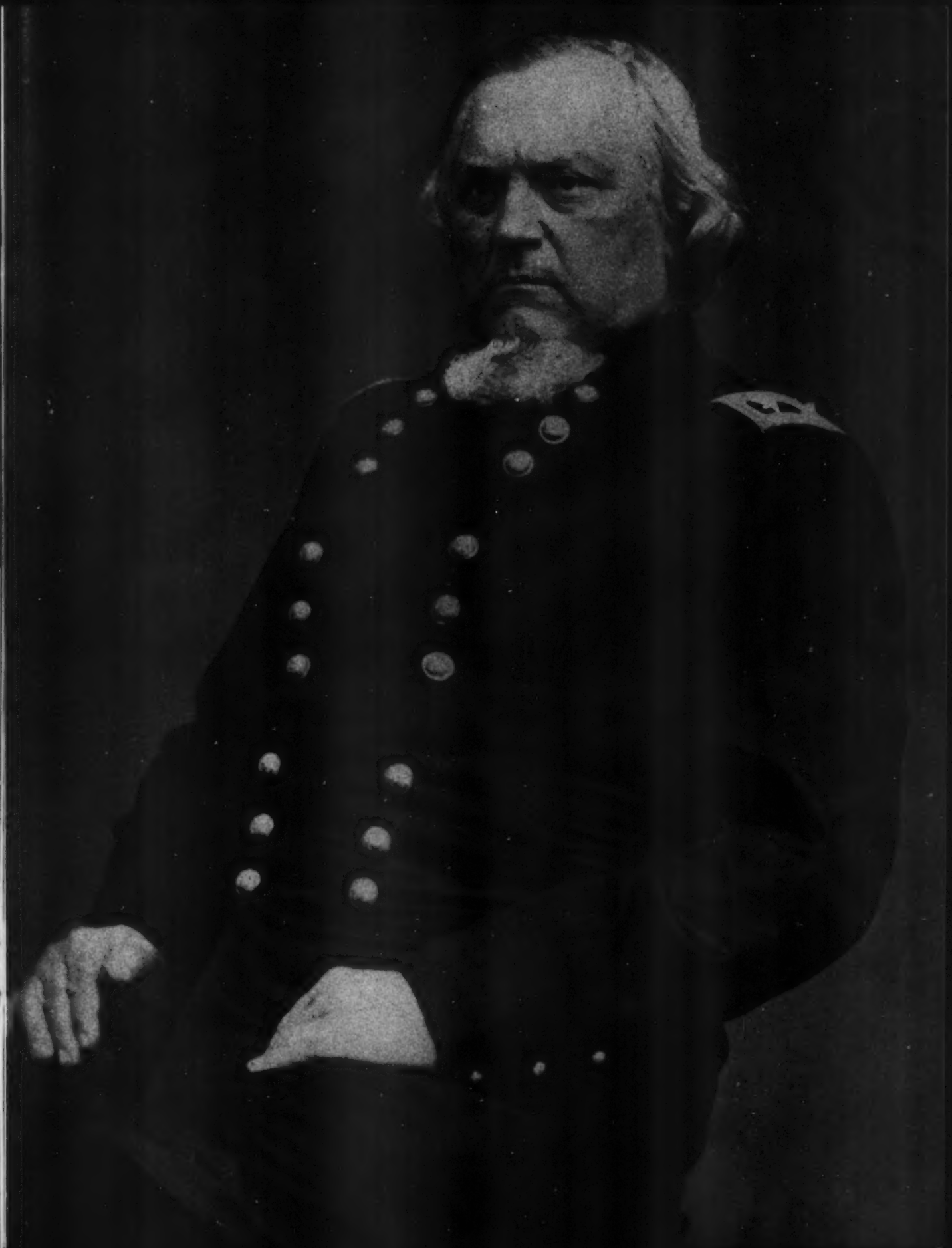
After his initial proclamations, Nye called for the first session of the legislature to meet in October 1861. He spoke to the lawmakers in their temporary chambers in a local Carson City hotel and, in his first message, recommended the passage of laws that were to form the basis of Nevada's educational system and mining industry.

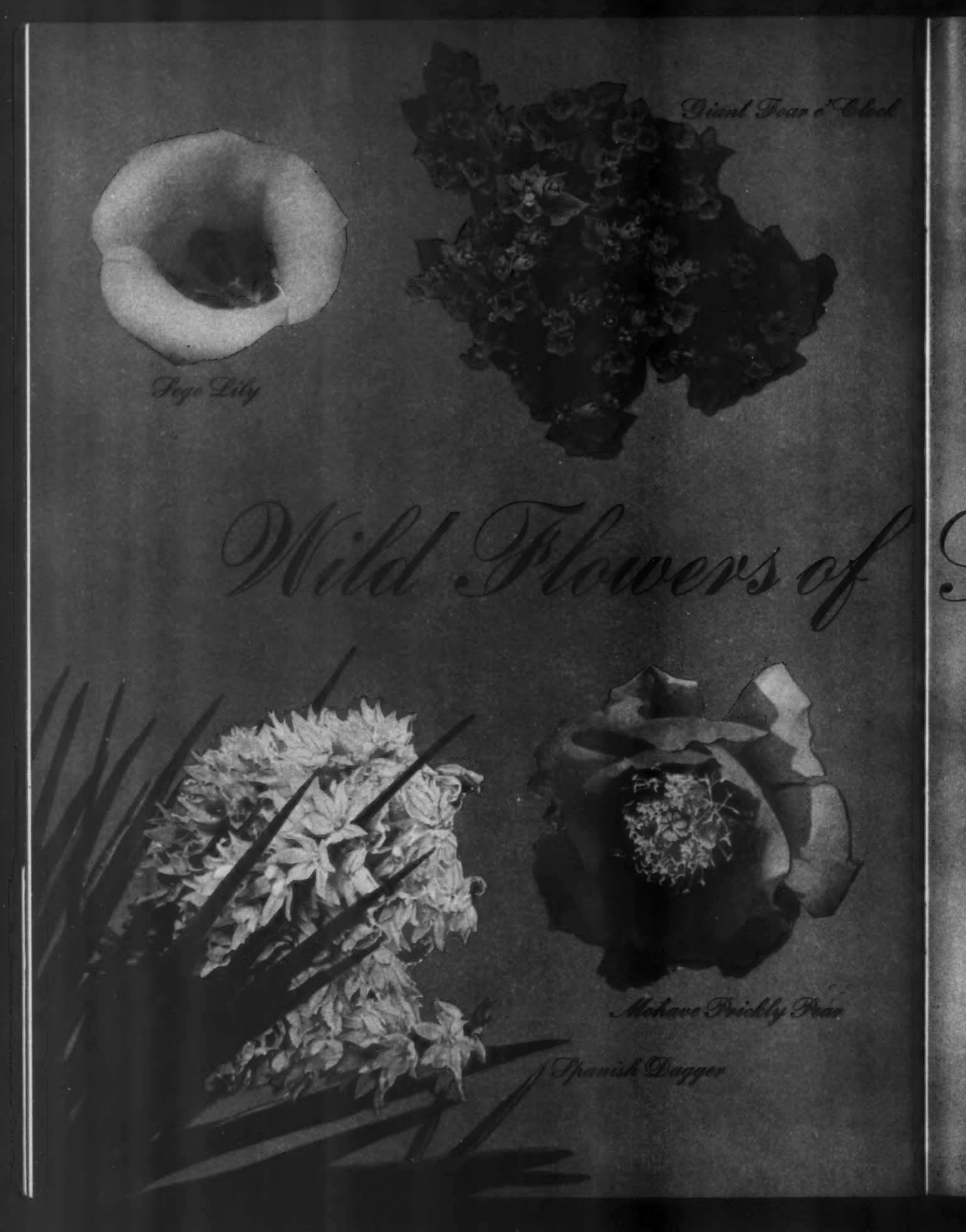
Later he guided convention delegates through their efforts in framing a constitution and establishing statehood. He was also farsighted enough to persuade Congress to reset the date for ratification of the state constitution so Nevadans could vote in the 1864 Presidential Election.

Nevada became a state on October 31, 1864, and the first state legislature convened in December to elect two U. S. Senators. On the first ballot, William M. Stewart was chosen and he used his influence to get Nye a ninth ballot election for the other position.

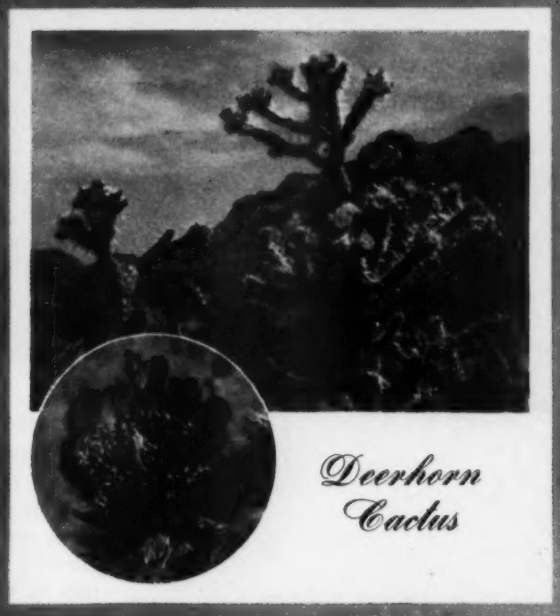
After this first short term in the Senate, Nye was re-elected to the six-year term in 1867. But in 1872, this man, who helped originate Nevada's mining statutes, was defeated for re-election.

Photo courtesy of Mackay School of Mines.




Giant Four o'Clock
Sego Lily
Wild Flowers of
Mohave Prickly Pear
Spanish Dagger

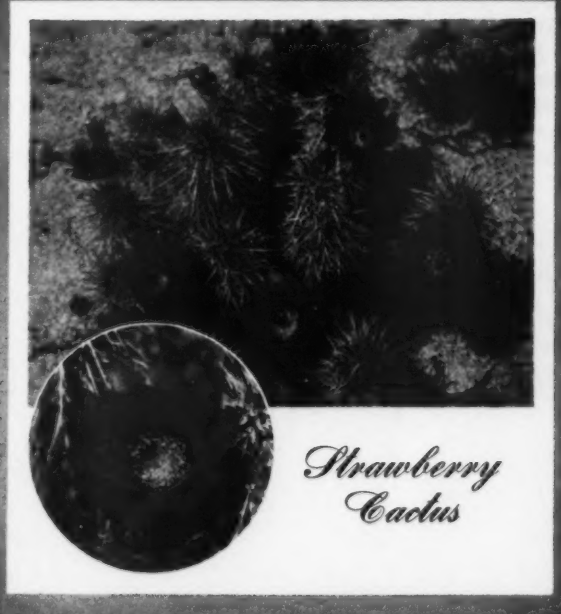
Judas Tree



Deerhorn Cactus

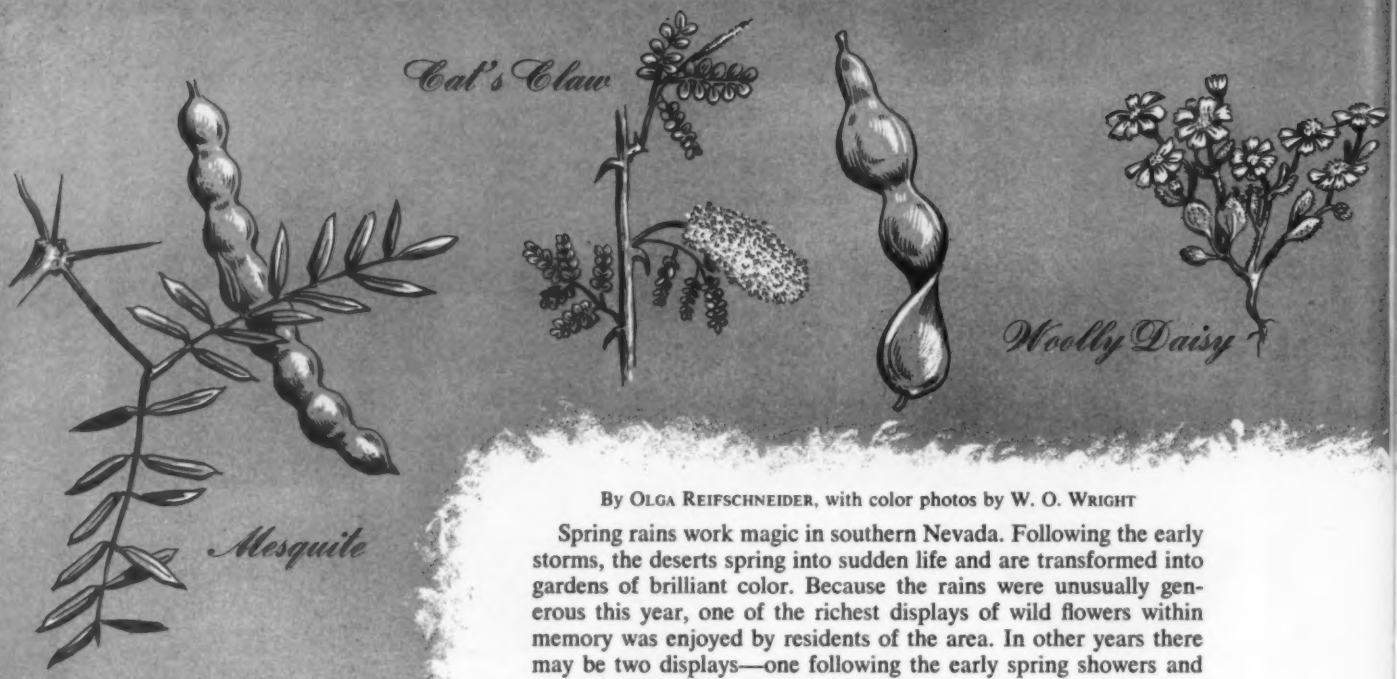
Southern Nevada

Joshua Tree



Strawberry Cactus

Creosote Bush



By Olga Reifschneider, with color photos by W. O. Wright

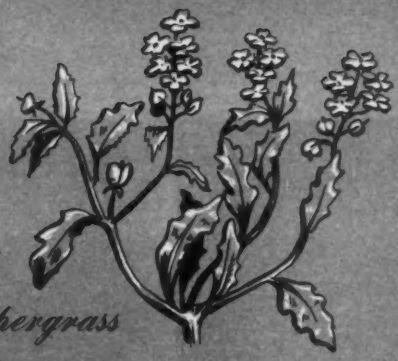
Spring rains work magic in southern Nevada. Following the early storms, the deserts spring into sudden life and are transformed into gardens of brilliant color. Because the rains were unusually generous this year, one of the richest displays of wild flowers within memory was enjoyed by residents of the area. In other years there may be two displays—one following the early spring showers and another after the summer storm period.

These vivid wild flower exhibits are one of the unexpected pleasures offered by the southern Nevada desert which is a part of the creosote bush (or Larrea) zone extending from the Mojave and Colorado Deserts. Precipitation in this area occurs regularly but in varying amounts, with moisture derived from mountain snows, winter rains and summer thunderstorms or cloudbursts. Temperatures range from 100 degrees in the summer down to freezing in the winter.

Botanists have determined four different life zones here, extending from above timberline down to the lowest, very dry elevations. The middle and higher elevations of the Charleston Range were isolated during the Ice Age when the present low, arid regions were occupied by lakes. These rugged, isolated areas provide ideal conditions for the preservation of relic flora—plants which climatic changes have affected little or not at all.

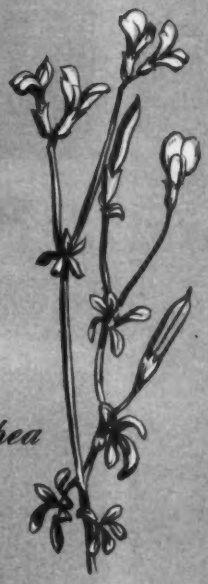
During the Ice Age, plant populations migrated into southern Nevada from the north and south and from the Sierra Nevada and Rocky Mountains. In time, some were left stranded to become the relic species so abundant in the Charleston Mountain area. The endemic species which are also present here have undergone changes in order to survive.

Although botanists have studied the Charleston Range, very little



Yellow Peppergrass

Coue's Cassia



Desert Rockpea

is known about the flora of other parts of southern Nevada. The first plant collecting was done by Coville's Death Valley Expedition of 1890–1891. During the 1930's, Ira W. Clokey, a mining engineer, made a valuable contribution in the field of botany when he explored the Charleston Mountain area.

Of the plants to be found in the southern Nevada habitat, the creosote bush (Larrea tridentata) is very common. Associated with it is a smaller shrub, the sandbur or burro weed (Franseria dumosa). Desert holly (Atriplex hymenolytra) grows in the dry, gravelly spots.

Many species of cacti are found on rocky outcrops and drainage areas. This family of plants is native to the Pacific Southwest and grows abundantly where there are summer thundershowers.

Brittle bush or incense bush (Encelia farinosa) has unique characteristics. It was learned through experiments that the leaves of this woody plant contain a toxic substance which inhibits the growth of annuals near it. This is in contrast to other woody plants which generally offer a favorable habitat for many species of annuals. The early padres burned the resin of the plant as incense and the Indians chewed it, rubbed the warm substance on their bodies to relieve pain, or used it as a varnish.

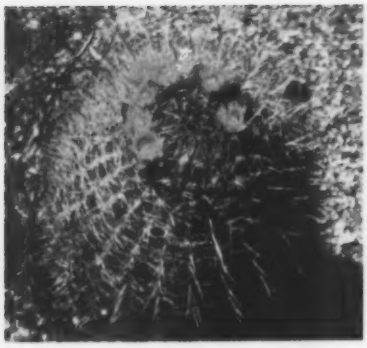
Where ground water in washes reaches depths of 50 feet, the ground-water indicator or mesquite (Prosopis chilensis) may be found. At shallower levels, poplars, willows and the introduced tamarix (Tamarix gallica) may be found. There is one native palm, the Washingtonia filifera. The northern and western sections of the Larrea zone include the Joshua tree (Yucca brevifolia).

In February, March and April comes the parade of spring annuals, many of which are pictured on these pages. The summer storms produce a second show of chinch weed and some grasses.

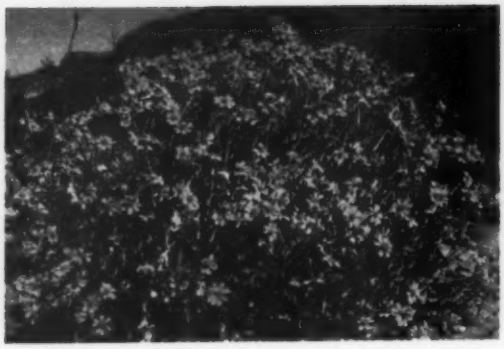
Pygmy Golden Poppy

Desert Cassia

Desert Chicory



Barrel Cactus



Brittle Bush

Desert Paintbrush

Chinese Lantern

Desert Aster

Stream Orchis

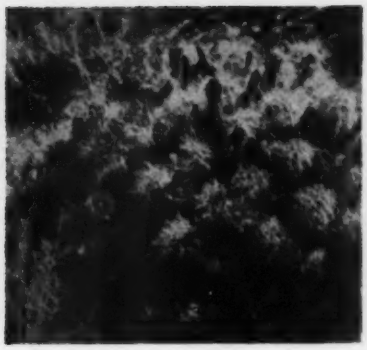
Blunt-leaf Stinkweed

Cliff Rose

Nolina

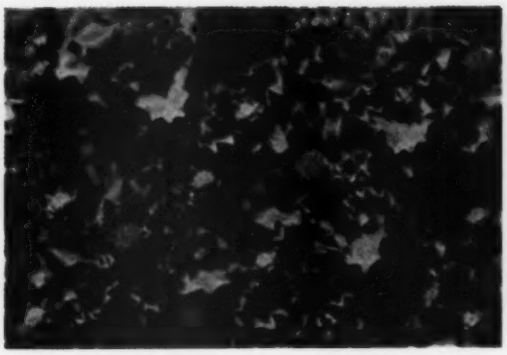
Cane Cholla

Paper Flower



Claret Cup

Pincushion

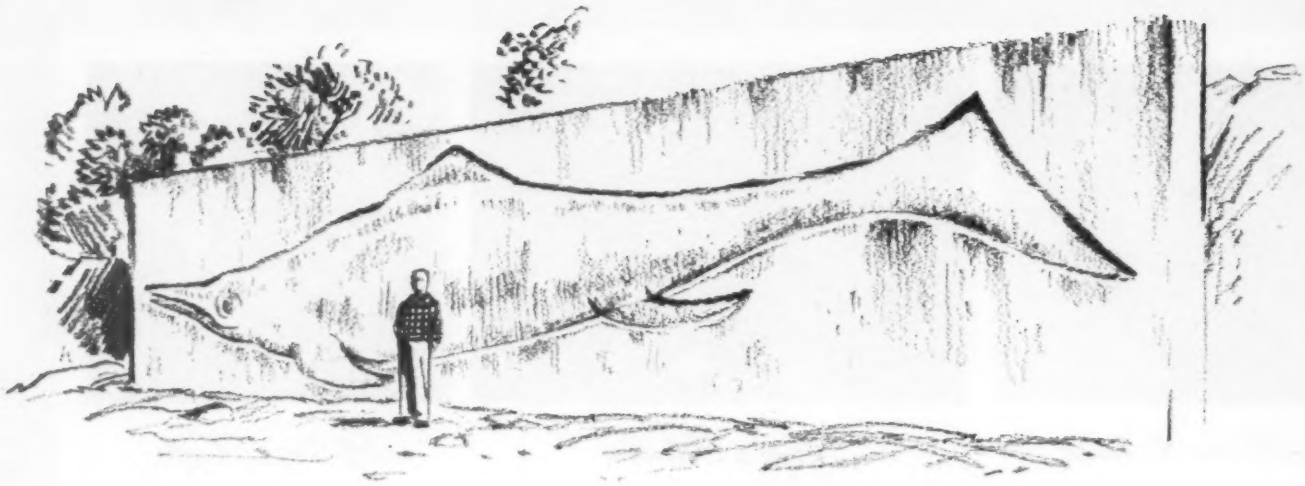


Velvet Rosette

Pygmy Agave

Rose Sage

Beavertail Cactus



Life-sized Model Built at

ICHTHYOSAUR STATE PARK

...and Work Continues As Visitors Flock In

How slowly man has learned to look into the distant past. Only within the last hundred and fifty years has it been realized that the fossil record contains countless extinct forms of life. And only in the last ninety years has it been shown that some of these extinct forms are the ancestors and builders of our present living world . . . . . . from EARTH SONG by CHARLES L. CAMP.

When Dr. Charles L. Camp first began his work here in 1954, few people in Nevada had ever heard of an ichthyosaur and nobody quite understood what all the excitement was about up in West Union Canyon.

Now, only five years later, the canyon has become the center of the Ichthyosaur State Park, unique among parks of the world for its rare and scientifically valuable fossil display. In these five years, what was once a barren hillside in the canyon has been turned into an outdoor museum where ichthyosaur skeletons 160 million years old are exhibited against a backdrop of the mammoth, life-sized replica of an ichthyosaur built last summer. And during this span of five years, hundreds of people have streamed into the park to examine the skeletons and ask questions about the great, sea-going reptile—largest creature on earth in its day—which they have affectionately nicknamed the "icky."

That Nevadans have come to regard this unusual park with such pride and respect is almost entirely due to Dr. Camp whose vision, combined with plain hard work and resourcefulness, has made it all possible.

Few people in the country know so much about ichthyosaurs as Dr. Camp who, as a member and sometime head of the Paleontology Department at the University of California, is an internationally recognized authority in his field. During his exceptionally busy career, he has written several textbooks on paleontology (the science of life of past geological ages); led scientific expeditions to Europe, Africa, Asia and various outposts on this continent; he earned the reputation as an expert at his hobby, the history of the American West; and, meanwhile, has given many years to his teaching and administrative chores on the Berkeley campus. How, then, he has managed to find time for this project on a remote Nevada hillside might remain something of a mystery unless you are acquainted with Dr. Camp.

Without being overly dramatic about it, he has completely dedicated himself to his science and—as much the philosopher as he is a practiced technician—welcomes any opportunity to interpret the lessons taught by paleontology. The discovery of well-preserved ichthosaur fossils in West Union Canyon opened up exactly such an opportunity. The deposits had been first identified in 1928 by Professor S. M. Muller of Stanford University, but they were not investigated closely until Dr. Camp came from the Coast to study them in 1953. He was immediately elated over the unusual size, accessibility and scientific value of the skeletons and saw that they had great potential as an exhibit. The site deserved recognition as a park or monument, he pointed out, which would preserve these sea-animal skeletons much as the Dinosaur National Monument preserves its land-animal fossils. Dr. Camp was so convinced that this ichthyosaur graveyard had a remarkable potential, in

Fossils are readied for display, Dr. Camp (below) supervising.

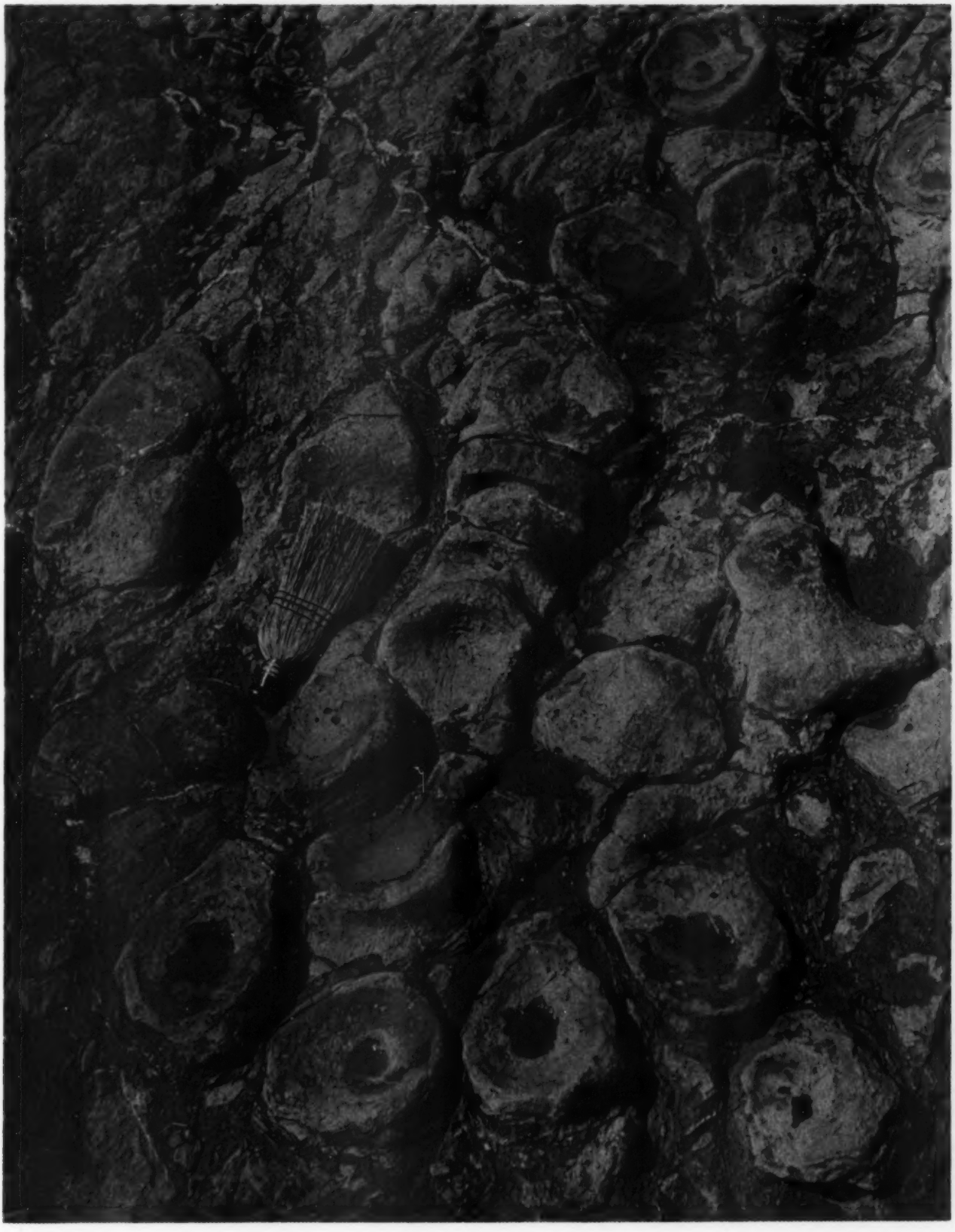
fact, that he volunteered to take charge of developing an exhibit at no cost to the state. After he announced that he would devote his summers to the project, Nevadans in nearby towns were quick to realize what his offer meant and joined enthusiastically in promoting the establishment of a state park.

In this effort they were given an immediate boost by the burst of publicity which followed the University's first announcement about the discovery. As headlines continued to blossom forth in California and Nevada, a trickle of visitors began to arrive—scientists from the Coast and equally curious laymen from the two states. A latter-day rush into West Union Canyon was on!

The first influx into the area was during the gold-rush days of 1863, a product of the earlier Austin boom. Into the Union district in northern Nye County came several hundred miners and their families, who settled the towns of Ione, Union and Grantsville along the west slopes of the Shoshone Range. These towns rapidly faded although Union was revived briefly again before the turn of the century when another gold boom gave rise to Berlin, two miles away. The remains of Union, its brick kiln, mill and weathered adobe walls are scattered about the bottom of West Union Canyon below the fossil quarries. Ironically, the canyon thus is a repository for two extinct populations vastly separated in time—the ichthyosaurs and their watery world in contrast to the pioneer's era which preceded our own. The fact that this galaxy of old mining towns lay so close to the ichthyosaur quarry further enhanced the possibility of a park in the area. The old buildings, deserted shafts and refuse of another generation, all colorful remnants of the early West, offered a

CONSTRUCTING the massive, natural-sized replica of an ichthyosaur was the most important accomplishment at the park last summer. Above, youthful members of the crew work on the 56-foot relief model. This original model was afterwards covered with a plaster mould, against which concrete was poured for the final wall. Below, right, boys soak burlap bandages in plaster to cover the model.

DR. CHARLES L. CAMP, left, is chiefly responsible for the development of the park. Some of the petrified bones he has prepared for exhibit are pictured on the opposite page. Seen here are a group of vertebrae bones (the round ones) with parts of the hindquarters of the ichthyosaur. They lie in place much as they did on an ancient sea beach 160 million years ago.



Patsy Camp cooked for a hungry crew.

bonus attraction for tourists. Other basic physical ingredients for a park were already there—shady groves of juniper and pinyon, sweeping desert panoramas, and a small but stable water supply from nearby springs. County roads into the area were, and still are, a problem since they are dusty in the summer and often muddy in the spring. But this was no deterrent to the supporters of the park and when their plan was taken before the Nevada Legislature in 1955, lawmakers acted with prompt decision and commendable foresight to establish a park. Dubbed the Ichthyosaur State Park, it operated under its own board at first, then, in 1957, was incorporated into the larger state park system.

(The park is located in northern Nye County and can be reached by several routes. Entrance can be made from U. S. 50 to the north via the Buffalo Canyon road south of Eastgate, or the Ione road which turns off west of Austin. From the west, a road leads in over Burnt Cabin Summit from Gabbs. From the south, a dirt road may be taken from Tonopah. Although these routes are posted clearly with state park directional signs, local inquiry is advised for those completely unacquainted with the area. The park is closed in winter, and travel is not advised during rainy weather in the spring.)

Although they were generous in giving legal status to the park, a limited state budget prevented the legislators from providing much money. State funds were greatly augmented, however, by donations from private persons and organizations, notably the Max C. Fleischmann Foundation of Nevada which assisted generously in the preliminary development. Dr. Camp had to make up in ingenuity what he lacked in dollars to get the work under way. He brought in summer crews made up of students from the Coast who were more interested in the experience than in salaries and, using rented bulldozers and other equipment, was able to excavate a number of additional deposits, some seven in all, containing the remains of at least 30 of the monsters. Earth and rock from these deposits was removed, research completed and several of the best quarries readied for exhibit. Low stone fences were put up around these and the individual bones were painstakingly sandblasted to bring out their natural bluish color. Then, last year, a larger park appropriation made it possible for Dr. Camp to embark on the most ambitious task yet—construction of a life-sized replica of an ichthyosaur above the main exhibit quarry. In charge of the project—difficult not only technically but because heavy materials would have to be hauled in over long distances—was Oakland sculptor William G. Huff who is well known for his heroic statues, notably those he did for the San Francisco Exposition of 1939. Mr. Huff accepted the challenge of the ichthyosaur project not so much for profit (the completed replica cost only a fraction as much as it would have if built by other professional sculptors) but because he had worked before for the University of California and, like many another who has seen the fossils, was captivated by icky's charms.

Into the wall went weeks of detailed planning and back-breaking labor. When it was completed the 50 tons of concrete which had been poured into the forms emerged as a dramatic depiction of the monster whose bones lay nearby. It was unveiled last fall with more than 100 people present to celebrate and, in honor of the occasion, Jessie Camp served up turkeys whose skeletons were soon as bare as icky's.

Mrs. Camp never expected that her life would be uprooted so suddenly as it was by a fossil graveyard in Nevada. But she and the rest of Dr. Camp's family now claim Union Canyon as their second home and, with the same spirit of adventure that has taken them on jaunts to far corners of the world with their scientist husband and father, willingly pitched in to help from the beginning. Their daughter, Patsy, was chief cook last summer, bearing up sturdily under the taunts of the hungry males for whom she cooked. Sons Roderick and Charles, Junior—he is now taking graduate work in Berkeley—have also devoted several summers to the bone pile. And somehow managing to keep all of the complicated comings and goings of family and crew on an even keel is Jessie Camp. She has helped to make a real home of the shack that grew from a canvas-covered shelter into a place with running water, shower, bath tub, gas appliances, huge fireplace and—thanks to a thoughtful friend—even a flushing toilet!

The most pleasant part of the day here is after supper when everyone gathers around the fireplace to review the day's work and preview tomorrow's. At such relaxed times, Dr. Camp likes to speculate how the park might grow—picnicking and camping sites, exhibits telling the ichthyosaur and gold rush stories, and, when there is money, another wall to portray a complete skeleton.

On other evenings, Dr. Camp might be prodded by one of the boys on his crew to retell the story of the ichthyosaur.

These were great swordfish-shaped reptiles that lived in all the warmer oceans of the world 70 to 180 million years ago. They grew up to 75 feet long and were bigger than any creature ever on earth, except for the largest of the dinosaurs which flourished later, and the modern whales.

Study of the evolution of the ichthyosaur shows that these great beasts developed from a primitive, four-legged, land-based reptile existing before the Age of Reptiles (Middle Triassic). These beasts gradually took to the water in search of food, their legs changed over the ages into paddles, and they became completely sea-bound, even giving birth to their living young in the water. (Skeletons of embryos have been found within the adult skeletons.) Ichthyosaurs thrived in their watery domain, their chests becoming massive so that their lungs could hold the air needed for forages deep into the ocean depths. Their eyes were huge, about a foot in diameter, and their eyeballs were supported by a ring of overlapping bony plates like the diaphragm of a camera shutter, so they could withstand the deep water pressure. They probably fed on floating shellfish such as ammonites whose petrified shells have also been uncovered in quantity in Union Canyon, and they ate fishes and perhaps even other, smaller ichthyosaurs.

After ruling the seas for millions of years, these great Shoshone ichthyosaurs—as the specimens in the park are now called—slowly died out, leaving their skeletons behind to tell the story.

That such skeletons have turned up in central Nevada shows vividly that the landscape here 160 million years

ago was far different from today's. At this early period in the earth's development, a great bay of ocean covered what is now western Nevada, California, Oregon and Washington, its shoreline roughly paralleling the present Shoshone Range where the fossils are deposited. The land was flat and swampy, covered with early relatives of the monkey-puzzle pine tree, stands of cycads, rushes and ferns. Along this ancient beach, ichthyosaurs were somehow washed ashore in numbers and covered with mud to petrify. Why the carcasses were deposited here in such concentrations is not known—possibly wind currents pushed them ashore much as whales today are beached, or they may have been caught on the mud flats by outgoing tides.

At any rate, the swampy landscape underwent many changes—the Sierra Nevada Mountains rose and a sandy desert was formed in the area. Then much later, about ten million years ago, the earth's crust was moved again and the old beach was pushed up 7,000 feet as inland mountain ranges formed over all of Nevada. This process was accompanied by fiery volcanic action with flows of lava, rhyolite and basalt which hardened into place. The ichthyosaur deposits were buried under a mile or more of this rocky material. Then, as a result of further faulting, the fossil deposits were again uplifted and exposed. They lay there for other millions of years, little affected by the changes of the Ice Age and the great drought of only 6,000 years ago until—thanks to Dr. Camp's efforts they were preserved for study and exhibit for our own generation.

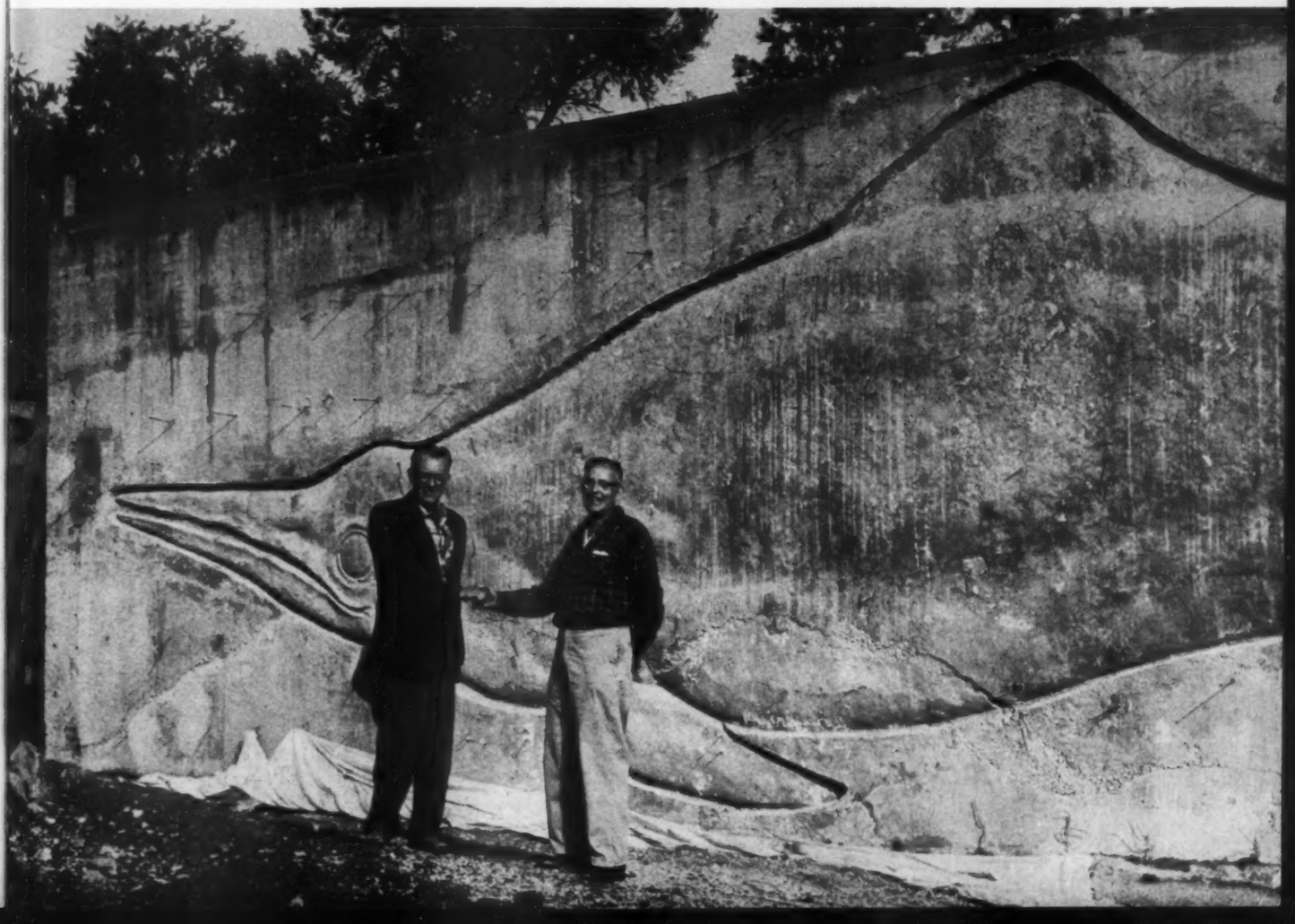
. . . . . .

Earth's living garment, constantly renewed, changes in style through the ages. The tattered remnants of the past cover the earth with a frayed, patched pattern that recalls the styles of long ago. The rocks, like cemetery headstones, date these fashions that have come and gone through five hundred million years of earth history. Countless extinct forms of life, preserved as rock-bound fossils, bear witness to these changes in earth life. . . .

Fossils testify to the works of creation. Their procession in the rocks represents the drama of history, unfolding the past ages of life, scene by scene: the long Age of Invertebrates and Simple Plants; the Age of Primitive Fishes, Amphibians and Coal; the Age of Reptiles, Pines and Cycads; and then the Age of Mammals with its backdrop of flowering plants.

The scene now being played is the first in a new act—the Age of Man. The play is not finished; the suspense is supreme, for we cannot look behind the dark curtain to see what new actors may be waiting to take the stage. . . . EARTH SONG.

Dr. Camp poses before the 12-foot concrete wall with sculptor, William G. Huff. The project was completed last fall after weeks of work.



These massive cliffs are seen in Jarbidge Canyon. For story, see page 2.